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I.

ON THE RECURRENCE OF EXANTHEMATOUS FEVERS.

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IMMUNITY from second attacks of the same malady, is a principle in pathology not less interesting to the world in general, than to the speculative investigator of disease. The object of the present essay is to examine the modifications of which this important principle is susceptible, and, in an especial manner, to determine, as far as possible, the laws which govern the recurrence of the principal exanthemata.

The diseases to which mankind have, by common consent, attributed the power of conferring immunity from second attacks, are only three in number—smallpox, measles, and hooping cough; and there can be no question, that such a power belongs to these diseases; that it constitutes a most important feature in their history; and that, by virtue of it, those disorders are, *in a degree*, isolated from the rest of the maladies to which mankind is subject. It is, however, only *in a degree* that they are so isolated. The same property belongs to one other disease at least, in as great perfection as to smallpox itself,—I mean yellow fever; and it is claimed for, and probably possessed by, several others, though in a *minor* degree. The power of conferring immunity from second attacks, which the *yellow fever* possesses, is acknowledged by those who yet differ widely on the origin and pathological affinities of the disease. This immunity seems to suffer little or no decay from the lapse of years, or the change of climate; and, as a law of the animal economy, appears liable to very few exceptions.

A similar privilege has been claimed for the scarlet fever; but it is very doubtful whether it operates here in any marked degree;—in any degree, that is to say, sufficient to separate it from other acute disorders, and to ally it to the four already mentioned, which we may designate as *non-recurrent*. Every acute disease, without exception, affords a certain quantum of immunity from second attacks. A man recently recovered from a typhous fever may remain in the wards of a fever hospital, or return to the place where the disease originated, with a reasonable security against recurrence. I of course presuppose, that a proper distinction is drawn between the conditions of recurrence and relapse, a matter of the utmost consequence in the inquiry now before us.

So, in like manner, a family, resident in the Lincolnshire fens, af-

ter passing through the endemic remittent of that district, may remain there with much greater security than a family of new-comers. Indeed, were it not for this law, it is obvious that there could be no permanent residents in any unhealthy locality. I do not by this mean to deny the fact of the recurrence of endemic maladies in the same subject. The countenances of the inhabitants of unhealthy districts bear too many proofs of the reality of this occurrence. All that I contend for is, that an individual, who has passed through the disorder, and been *effectually* cured, is not so liable to a *second* attack, as a newcomer is to a *first*. The constitution, by having once gone through the disease, has acquired at least a temporary security from a second visit. The very fact of convalescence in the air which engendered the malady, is, of itself, a sufficient guarantee of the correctness of this doctrine.

The true Turkish plague is subject to a similar law of temporary immunity. Dr. Russell, in his full and perspicuous account of this disease, informs us, that instances of re-infection during the same season are very infrequent. Some authors, especially Orræus, who describes the epidemic of Moscow in 1770, contend that such an event has occurred; but popular opinion all over the Levant confirms the notion, that a person once recovered from the plague is secure, at least for a time, from a second attack; and it is not improbable, that the few instances to the contrary, recorded by authors, are really cases of *relapse*; the difference between which and re-infection, however clear to the understanding, being, according to Dr. Russell, by no means of easy application in practice. Whether this immunity from second attacks continues through life, or when it ceases to operate, are questions more difficult to answer. The following is the result of Dr. Russell's own experience:—"It appears," he says, "from my journals and memoranda, that in 4400 cases of plague, there were only 28 of re-infection, well ascertained,—a proportion much under what I expected, and which may account for some practitioners not having met with them at all." It has recently been shown, that the recurrence of plague is considerably more common than the experience of Dr. Russell would seem to indicate.

It is recorded by Thucydides, in his account of the plague of Athens, that "the convalescents had much compassion on the sick and dying, from having known their misery, and being themselves secure, as the disorder never seized the same person twice, so as to be mortal."

I have not been able to obtain any accurate information relative to the recurrence of cholera, or the period of time for which one attack affords immunity in that disease; but the fact of *temporary* immunity may be assumed as the dictate of common sense.

To return to the subject of scarlet fever. The power of resistance to second attacks, which has been claimed for this disease, does not seem to me to belong to it in any *especial* degree. I have known several instances of persons suffering twice from fever, accompanied with sore throat and scarlet eruption. It must be borne in mind, however, while reasoning on this subject, that it happens to a very few persons in their lives to suffer two attacks of typhous fever, or

two attacks of acute rheumatism, or indeed of any grave and dangerous malady of the febrile kind. In so far as this general principle extends, scarlet fever may be said to be of *non-recurrence*, but not further.

The power of conferring immunity from second attacks is, no doubt, an important feature in the characters of smallpox, measles, and hooping cough, but it has long been a subject of doubt with me, whether we are justified in viewing it in any other light than as a well-marked illustration of that principle of resistance to second attacks which resides in acute diseases generally, but more especially in all regularly-formed fevers. As a distinguishing character of these complaints, it undoubtedly yields to that of *universal susceptibility*. This it is which so eminently separates these three disorders from all others in the nosology. To *this* law, the exceptions are very few, but it does not fall within my design to investigate this branch of the subject;—I only allude to it now, because I am anxious that the two principles of universal susceptibility and of immunity from second attacks, which have no pathological connexion, should, in this inquiry, be carefully distinguished.

Looking, then, upon the fact—that all mankind, under every variety of climate and circumstance, are, at birth, (with few exceptions,) alike susceptible of them, as the primary and distinguishing character of smallpox, measles, and hooping cough,—let us inquire, somewhat more in detail, into the laws which govern the *renewed* susceptibility of those disorders.

First, of smallpox. Some persons have attempted to deny the fact of recurrent smallpox, or rather to explain away the circumstance, by calling one of the attacks *chickenpox*, and by attributing such different laws to these maladies as to constitute them *distinct* diseases. Their attempt, however, has completely failed, for the instances of recurrent smallpox have been much too numerous and too unequivocal to be thus got rid of. In every age and country, cases have been recorded by men of undoubted veracity. The scars of a former attack remained to nullify the speculations of the staunch supporters of *non-recurrence*; and fatal cases, even after extensive pitting, are to be met with, fully attested.

It is unnecessary to dwell longer on the simple fact of recurrent or secondary smallpox. Questions more worthy of inquiry are, first, the comparative frequency of such an event, as compared with the recurrence of other febrile diseases; and secondly, the extent of interval between the two attacks:—in other words, the intensity in which this power of resistance to second attacks may be supposed to exist.

On the first of these points it is difficult to arrive at any accurate conclusions. I may observe, however, that cases of recurrent smallpox have been very rare at the Smallpox Hospital during the ten years that I have had the superintendence of that establishment; they have certainly not averaged more than three or four in the year. I cannot, therefore, consider the occurrence as a common one. During the same period, I have seen in private practice a few well-authenticated cases, and have heard of several others, but the event is still, *as it always was*, viewed as a singular deviation from the common course of nature.

With regard to the interval be-

tween the two attacks, I have always found it to be very long. I have never seen any but adults suffering under recurrent smallpox; and this, I believe, is the concurrent testimony of the best authors. The severity of the second attack varies greatly; and no anticipation can be formed respecting it, either by the character of the prior attack, or by any other known criterion. In this respect recurrent smallpox differs from smallpox as it occurs subsequent to vaccination; and this may be adduced as one among many reasons tending to prove, that smallpox after vaccination cannot be satisfactorily explained by a reference to recurring or secondary smallpox. The argument, though apparently so conclusive, vanishes indeed under a closer investigation. The great extent to which smallpox prevails after vaccination will then rather be found in contrast with the comparatively few instances of recurrent smallpox. Many hundred cases of the former have been admitted into the Smallpox Hospital during the period which has afforded not more than twenty or thirty instances of the latter.

Secondly, of measles: Dr. Baillie's well-known paper on recurrent measles has rendered that fact familiar to all; but Burserius had previously collected many instances from unquestionable authority. Morton saw a patient who had measles twice. De Haen describes two similar cases. As far as common observation extends, the recurrence of measles would seem to be more rare than that of smallpox; and from the absence of scars there is more difficulty in ascertaining the fact correctly. Dr. Willan describes a mild disorder, under the title of *rubeola sine catarrho*, which, he says, gives no security whatever against the true measles. Of this mild disease I have not seen more than two or three cases; but at the Smallpox Hospital I have had several instances of a *severe* affection, which admits of such a denomination. It is characterized by an eruption truly rubeolous, with purulent expectoration, and a low typhoid form of fever, but without ophthalmia, hoarseness, or coryza. Several of these cases have proved fatal. The disease, I am fully persuaded, is essentially different from rubeola. I have never been able to trace it to the contagion of measles; I have never seen it spread by contagion; I never witnessed it except in adults. I have usually designated it as *bronchitis rubeolosa*, from a conviction that the leading feature of the complaint is acute bronchial inflammation, upon which a rubeolous eruption supervenes. I am not aware whether the existence of such a disease is generally known. In determining any questions connected with recurrent measles, an acquaintance with this fact must of course be useful.

Very little is as yet ascertained respecting secondary measles, beyond the mere circumstance of its occasional recurrence. In the cases described by Dr. Baillie, the intervals between the attacks were —four months, six months, and twenty-one years. Three cases have recently been recorded, of measles recurring after an interval of fourteen days. I have not heard or read of any similar cases; but the authority on which the statement is made is unquestionable.* It may be doubted, however, whether the term *relapse* does not apply to them rather than *recurrence*.

* Lancet, No. 399, April 23, 1831, p. 104.

Thirdly, of hooping cough: the recurrence of this disorder is a fact mentioned by various authors, but always as a rare event. I have generally found, upon inquiry, that the reputed instances of it were within twelve months of the date of the primary attack. Now, when the usual course and duration of hooping cough are borne in mind, it will not be unreasonable to consider many, if not the whole of these, as instances merely of *relapse*. The following definition of *relapse* is given by an old French writer:—"The sequel of a malady imperfectly cured, which renews itself at variable intervals, by a remnant of malignity, which neither remedies, precautions, nor *time*, have served to destroy."

I come next to investigate the subject of cowpox, and the laws which regulate its recurrence.

A very large proportion of mankind are susceptible of cowpox. The instances of insusceptibility which have fallen under my own observation have not probably exceeded a hundred out of many thousands; and it is more than probable, that in many of these, the inaptitude to receive cowpox arose from temporary causes, and would cease in the course of a few months or years. In some instances it has appeared to depend on general weakness of the frame, and atony of the absorbents. It was associated with atrophy, protracted dentition, and an intellect imperfectly developed. In other cases, however, I have observed it in conjunction with great vigor of mind and body.

Abundant experience has shown, that after receiving cowpox effectually, the human body remains insensible to the same poison for a considerable period of time; but what that period is, whether for life, or for larger or smaller portions of life, are questions of importance, deserving rigid investigation. The opinions of Dr. Jenner on the subject of recurrent cowpox are not, I believe, published. In a letter with which he favored me in 1821 (a year and a half before his death), he mentions that he had projected a work on an extended basis, in which the question should be fully considered. Whether he ever executed this design I have not been able to ascertain. In the absence of better information, I will state what I have myself observed regarding recurrent cowpox, premising that the stock of our knowledge on this interesting subject is still small, though somewhat advanced since the period of Dr. Jenner's death. Much still remains to be determined in this department of pathology.

In all the trials which I have hitherto made, I have found it impossible to re-communicate cowpox, in any degree of perfection, to children under ten years of age, vaccinated carefully in early infancy. It is certainly a singular circumstance, that the earliest period of life at which I have seen smallpox among the *vaccinated out-patients* at the Smallpox Hospital, is *ten years*. A boy (Geo. Cox) has just left the hospital, after passing through a mild but *unmodified* smallpox, who was vaccinated by Mr. Wheeler, the resident surgeon, in 1821. The appearances on the arm are noted in the register as being perfectly regular, which the appearance of the scars would also testify. Several cases of a like kind have occurred during the last two years, but at longer intervals. After the period of puberty, the

susceptibility of cowpox appears to return in a considerable number of patients. The course of the disease is then variously modified, but sometimes no modification of any kind is perceptible. On the 17th October, 1830, I re-vaccinated Miss E. G., twenty-one years after the date of the primary vaccination. The areola formed on the 8th day; the scabs were persistent until the 21st day; and the whole course of the secondary disease was regular. Many similar cases have occurred to myself, and others have been communicated to me by professional friends.

I have undoubtedly met with many instances of *resistance* to second infection, after the lapse even of twenty-five years; but the principle is, I think, clearly made out, that the law of the animal economy, regulating the re-susceptibility of *cowpox*, is different from that which governs the recurrence of *smallpox*. The general impression I believe, *is*, and always has been, that the laws which govern the reception of smallpox and cowpox are identical. My own observations would lead me to look upon this as an error in pathology. It appears to me, that the immunity from recurrence of its own diseased action is not so complete or so permanent in the case of cowpox, as it is in the case of smallpox.

It is a reasonable presumption, that wherever the constitution regains the susceptibility of cowpox, it lies open also to the infection of smallpox. This, I say, is a matter of presumption: it can be determined only by the experiment of inoculating individuals (at variable intervals from the date of vaccination) with cowpox and smallpox at the same time—an experiment which few persons would volunteer, and which medical men hitherto would hardly have felt justified in recommending.

That the presumption is in favor of such a principle, may be inferred from a circumstance which has recently occurred under my own observation. Two of the out-patients at the Smallpox Hospital were found to be insusceptible of primary cowpox. I was exceedingly anxious to ascertain whether this insusceptibility of cowpox carried with it a like inaptitude to the reception of smallpox. Many similar cases had occurred to me, but these were the first wherein the compliance of the parents enabled me to ascertain the fact. The cases are on that account interesting, and worthy of special notice.

Case. I.—Sarah Kirton, aged ten, residing near Middlesex Hospital, was brought to the Smallpox Hospital, April 11th, 1831. From the mother (a very sensible, well-informed woman) I learned that the girl was unsusceptible of cowpox. The operation had been performed fourteen times in the course of four weeks, by a variety of practitioners in town and in country. In every instance imperfect papulæ had formed, dying away in a few days. The mother had herself, in early life (at twelve years of age), suffered dreadfully from smallpox. Her face was disfigured by it in a degree rarely if ever witnessed. She was, therefore, more than usually anxious for the safety of her child. I repeated the vaccination for the fifteenth time, but with the usual unsatisfactory results. On the 29th of April I inoculated the girl in six places, with fresh smallpox matter. Elevated spots were susceptible for a few days, but they soon died away.

CASE II.—Charles Mason, six months old, a fine healthy child (not teething), was brought to the Smallpox Hospital on Monday, March 8, 1831. Three months ago he had been vaccinated by Mr. Sawrey, in Bloomsbury Square. By the mother's account, the vaccination did not take properly. A small *head* appeared, which soon died away. I vaccinated the child carefully in six places. On the eighth day the arm presented the appearance of six small acuminated pustules, like those of acne punctata. They speedily died away. On the 9th of May I inoculated this child in the wards of the hospital, with fresh variolous matter, in several places. Seven days afterwards—viz. on the 16th May—the arm presented the appearance of one small scab, surrounded by a slight areola. In a day or two this disappeared.

The legitimate inference from these cases is, that where vaccination, or re-vaccination (duly performed), fails to produce a vesicle, the system is insusceptible of smallpox. But we may go, I think, a step farther, and infer, that where re-vaccination *does* take effect, there the constitution was previously open to the attack of smallpox. In doubtful cases, and cases where a dread of smallpox exists in the mind of an individual, I have often acted on this principle, and advised re-vaccination. The measure possesses this strong recommendation—that it is either perfectly harmless or eminently beneficial.

From the doctrines now laid down, it follows, that the cause of smallpox, after cowpox, must be sought for, not in the mode of performing the operation—not in the quality of the lymph employed—not in any presumed irregularity in the process—not even in the law which governs the recurrence of smallpox; but in that which regulates the renewed susceptibility of its own action. If cowpox does not, even when most duly taken, give perfect or permanent security against itself, it cannot be expected to do so against smallpox; and that such is the fact in a considerable number of cases, the phenomena of re-vaccination tend very clearly to show. There can, I think, be no doubt that Dr. Jenner, in the first instance, overlooked this important peculiarity in the character of cowpox. Observing the close similarity between cowpox and smallpox in some points (a similarity which, in his opinion, amounted almost to *identity*), he was naturally led to conclude, that as smallpox afforded immunity from recurrence, as complete and permanent as could reasonably be expected, and greater than exists in any other known disease, so would be the immunity afforded by once undergoing cowpox against the renewal of the same disorder. Assuredly nothing less than a strong conviction that cowpox gave a *perfect* and *permanent* security against its *own* recurrence, would have induced Dr. Jenner to use those remarkable expressions contained in his first Memorial to Parliament:—"*Cowpox renders the person inoculated perfectly secure, through life, from the infection of the smallpox.*"

To this error in the original notions of Dr. Jenner, concerning the renewed susceptibility of cowpox, I trace all the difficulties in which the question of vaccine protection has since been involved. I am the more inclined to do so, because the subject of re-vaccination is the only one which appears to have escaped

the scrutinizing eyes of that distinguished philosopher. Let it not be supposed, however, that these reflections are either intended or calculated to impugn the value of his discovery. The great principle which he first made out is still acknowledged as a truth of inestimable worth. We have, in the cowpox, a mild and perfectly safe disease, whose influence is directly opposed to that of smallpox. So long as the cowpox preserves its efficiency, as long as the constitution is unsusceptible of re-vaccination, so long is it secure, not only against the ravages of smallpox, but against its *reception*. When the susceptibility of cowpox, and with it that of smallpox, has returned, there still hovers in the system (in a large proportion of cases) sufficient influence to modify the course and to soften the asperities of that dreadful disorder. That this influence is not permanent to the extent which Jenner supposed, and which analogy fully justified him in anticipating, detracts not from his merit. It should only serve to encourage us to persevere in the path which he pointed out, and, if possible, to perfect the noble design which was the unceasing object of his life.

II.

LIGATURE OF THE CAROTID ARTERY FOR HEMIPLEGIA, WITH A CASE IN ILLUSTRATION. BY MR. PRESTON, ASSISTANT SURGEON, GENERAL DEPOT OF EUROPEAN PENSIONERS, CUDDALORE.

PETER RACHFORD, aged 50, was admitted into the Depot Hospital, on the 25th October, 1830, with the following symptoms :—Loss of power and sensation in the left side of the body—left cheek droops, and is drawn towards the opposite, when he attempts to speak, which is now almost impracticable—pain in the paralytic leg—head free—circulation natural — skin cold — tongue clean—bowels open. The foregoing symptoms came on suddenly the preceding night. The man has always been a hard liver, and had been much intoxicated about a week before the seizure. A blister was applied to the head, and ten grains of calomel were exhibited twice a day. On the 28th the mouth was slightly affected ; and the calomel being continued, salivation ensued. About this time iodine was also given, and a seton was inserted in the nape of the neck. On the 13th November, there being no mitigation of the paralytic symptoms, we find the nux vomica was exhibited. On the 17th he evinced pain and tenderness in the region of the liver, for which he was leeched and blistered. The pain was removed, but the other symptoms remained nearly the same.

On the 22d November, the paralytic complaint being in statu quo, Mr. Preston determined on tying the carotid artery of the right side, in conformity with the general fact, that the cause of the paralysis is in the opposite side of the head. The steps of the operation need not be detailed. In the evening of the same day, there was no perceptible inconvenience from the operation.

23d.—Slept pretty well last night—skin warm—pulse 100, and not intermitting, as it had generally done before—tongue thickly furred, but moist—slight cough, and uneasiness in the chest. There was also some difficulty of deglutition. In the evening, the pulse was down to 80, and soft—skin warm and

moist—bowels confined. Ol. ricini statim.

24th.—Pulse 60, irregular, and intermitting. Complains of more pain in the paralytic arm.

26th.—He appeared to speak more distinctly, and in two days more spoke as distinctly as at any period of his life. On the first of December he was put upon half-diet. 4th Dec.—Has considerably recovered the power of the left leg, which he is able to draw up and down. He this day attempted to walk, but did not succeed. The arm is still completely powerless. The appetite is good, and he sleeps well. 12th December, we find the patient able to walk alone, with the aid of a stick. The arm is still paralytic. 15th.—The wound is quite healed, except at the spot where the ligature protrudes. He was discharged the hospital on the 30th of December, at his own request, being able to walk about very comfortably with the assistance of a stick, but the paralyzed arm still without any muscular power.

The following are Mr. Preston's reasons for the operation.

"In tying the carotid artery for palsy, I have deviated entirely from the treatment pursued in that disease, and was led to undertake the operation from the consideration which I subjoin.

I conceived generally that it might be had recourse to, with great advantage, in diseases of the brain, especially such as we had reason to believe depended upon congestion, inflammation or irritation of that organ; as its principal effect would be, to diminish its supply of blood—an object we have more or less in view in the treatment of cerebral affections; although it cannot always be accomplished by depletory measures.

Venesection and the application of leeches often increase the determination to the head; partly by the disturbance they excite generally in the system; and partly by the reaction which frequently follows their employment.

It appeared to me also that a more durable, and more decided effect would be induced by this operation than by any mode of depletion; and that it might entirely remove, or greatly diminish congestion and chronic inflammation of the brain and its membranes; the causes, I believe, of many diseases, which the common mode of treatment too frequently fails of relieving.

As palsy may be induced by some change in the brain itself, either functional or organic, without any complication of the spinal marrow, it appeared to me a disease likely to be affected by this operation; and as, from the suddenness of the attack in the present case, I was inclined to attribute it to some such change—(I conceived extravasation within the cranium)—it seemed a favorable opportunity for trying its effects. I believed that the pressure caused by the extravasated fluid, might be removed by the diminution in the volume of blood sent to the head; which would be affected by tying one of the carotid arteries. The paralysis, too, I was aware, might depend upon a very different cause from that conjectured, and yet be removed by this operation: for we know too little of the diseases of the brain and its different affections, to be certain in every case of their precise nature, and to predict always with accuracy the result of the measures we employ with a view of removing them. If the palsy arose from congestion, inflammation or irritation, it appeared

equally eligible as in the case supposed by me; but my principal reason for undertaking it in the present instance, supported by the arguments I have already adduced, was, that the case appeared otherwise hopeless; the disease being altogether unaffected by the remedies I had employed, and the patient's strength beginning to sink.

Obliteration of the common carotid artery on one side has been frequently effected, without any ill consequences attributable solely to it, and without any disturbance of the brain, heart or lungs. How far it would be safe to tie this artery on both sides, is a question of very serious consideration. It has been done repeatedly on the dog by Bichat, and death occurred in only two instances. I have myself tied both these arteries twice in the same animal, but without producing any effect.

Under desperate circumstances, and at an interval of some time after tying the first; we would, provided no relief followed, and the case was otherwise hopeless, I conceive, be justified in tying the second. It might, however, be done with a slip knot, or in such a manner as to admit of the ligature being loosened, should any alarming symptoms follow; or the ligature might be applied so as to intercept only a portion of the blood sent to the head, by narrowing, at the part, the calibre of the artery—we might thus easily increase or diminish, according to circumstances, the column of blood which it transmits.

The operation itself excites no constitutional disturbance, or but very little.

I quote the passage from Bichat—in which however there is some obscurity, probably from some error of the translator—as also the same, worded somewhat differently, and found in Rees's Encyclopædia, article—heart.

From Bichat.

'It is easy to prove that the movement of the blood is necessary to that of the brain; expose the brain of an animal in part and tie the carotids.

'In such case, the cerebral movement will be sometimes weakened, and then the animal will be stupified; at other times the vertebral arteries will exactly supply the place of the carotids, and then there will be nothing deranged in the principal functions of the brain: for there is always a relation existing between the alternate rise and fall of the cerebral mass and the energy of life which it displays.

'*In general, the obliteration of the carotids is never suddenly mortal. Animals will live without them, for at least a considerable time. I have kept dogs in this state for several days*, and have afterwards made use of them for other experiments; two however died in the course of six hours after the application of the ligatures.'—*Gould's Translation*, page 157.

The part that seems obscure in the foregoing paragraph I have underlined. The number of dogs that died after this operation is not specified, nor at what interval of time.

The same passage is thus worded in Rees's Encyclopædia.

'The heart, which propels the red blood, affects the brain by the motion which it communicates to that organ. If the arrival of this fluid be completely intercepted, the motion of the brain ceases, and life is extinguished; where the carotids alone are tied, the vertebral arteries still keep up the movement, and no ill effect is produced.'

The diseases in which I conceive this operation most likely to prove serviceable, are, such as depend upon determination of blood to the brain, congestion, inflammation, or irritation of that organ; but it must be understood, that I propose it as a remedy only after other means have failed. I may here specify apoplexy, phrenitis, hydrocephalus, many cases of injuries of the head, palsy, epilepsy, and insanity; which latter disease is now generally admitted—indeed known to depend upon a change of some kind in the brain or its membranes; most commonly some modification of inflammation or its products. Where this organ in insanity is affected only from sympathy with some other; how far tying one of the carotid arteries would be serviceable must, I fancy, depend upon considerations connected with each particular case. Here, as in more dangerous diseases, both these vessels might be tied with the precautions already stated; allowing a longer interval of time to elapse between the operations. There are some other points connected with this subject upon which I am at present unable to enter, but which upon a future occasion I hope to lay before the Board."—*Medico-Chirurgical Review.*

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HOOPING COUGH.

THE precise nature of the spasmodic cough which forms so striking a symptom of this affection, is still matter of some doubt. It has been thought by some that the air vessels themselves experienced a spasmodic contraction, and that by the successive opening and closing of these passages, the sound in question was produced. This theory is open to an objection arising from the nature of these air-cells, which have no muscular structure. It is sufficient to suppose that an action of this sort takes place in the larynx, and that it is by the clonic contraction of the glottis, that the interrupted character of the cough is produced. If the experiment be tried of closing the rima glottidis during expiration, so as to allow the air to escape only at intervals, and with some force, a cough can be produced, not dissimilar in character to that of the disease in question. The difference between this and the ordinary cough of pneumonia, seems to belong somewhat to the irritability of the system in young subjects, which peculiarly predisposes to convulsive action: for, although hooping cough be not peculiar to young subjects, yet its occurrence in after life may be regarded as comparatively rare. Occasionally a spasmodic pneumonia, analogous in its general character to hooping cough, is met with in persons advanced in life; a fact in entire accordance with the general character of the disease. But in whatever manner this peculiar sound of the cough may be explained, there can be no doubt that the proximate cause of the disease is to a great extent the same as that which produces bronchitis and pneumonia; that the cough is occasioned by the irritation of the bronchial surface, and that it is, like the cough in those diseases, the means adopted by nature for ex-

pelling an offending substance. As proofs of the inflammatory or irritative character of pertussis, it may be observed, that it is generally, if not always, commenced by a catarrhal affection, accompanied with the ordinary cough; and hence it is very common to hear an expression of doubt, whether a child has in reality the hooping cough or not. As a sequel to measles, it is also not unfrequently met with; and in general the circumstances of its history are such, as to show that inflammation of the mucous membrane, of the bronchiæ and lungs, is its proximate cause. It is also to be observed, that although in children pertussis does not ordinarily form the commencement of chronic pneumonia or phthisis, yet this termination of the disease in adults is by no means a rare one; and where the disease has not shown itself till late in life, its character as an inflammatory affection has been more strongly marked, and it has proved a disease of no inconsiderable severity.

2. Of the matter expectorated in hooping cough. The paroxysms of cough terminate in throwing from the lungs, into the throat, a large quantity of viscid mucus mixed with saliva. It has not until lately been suspected that the secretion in these cases differed from that in other bronchial affections. We observe, that in a late analysis by a French practitioner, whose observations are published in the Révue Medicale for March, this secretion was found to contain hydrochlorate of soda; and the treatment recommended by the author, and which was found to exert a favorable influence, is grounded on this view of the subject.

3. A curious circumstance in regard to this disease, is, that with so few exceptions it should appear only once during life. Why this should be the case, is a point which authors have hardly attempted to explain. We are simply enabled to perceive that the same general fact holds true of measles and scarlatina; but why it is true in regard to all or any of them, it is not easy to say. The idea naturally suggests itself, that the susceptibility to these complaints may exist in childhood and be overcome in after life. But this explanation does not accord with the facts; for, where these diseases, from any accident, have been escaped in early life, they occur at a later period, with increase both of severity and danger. It seems to be one of those ultimate facts, of which even analogy fails to furnish us with a plausible explanation.

4. The variety in the treatment adopted in pertussis, is of itself a proof how far we are yet from possessing a specific for this disease. Occasional emetics in the early stage of the affection, and the use of mild general tonics and change of air at a later period, seem to constitute nearly the sum total of the ordinary routine of practice. Vesication has obtained little reputation in the treatment of this disease. Of the various antispasmodics, which have at times been employed, two have lately been revived and brought into notice; namely, belladonna and the prussic acid. For the benefit of those who may feel disposed to make trial of

these remedies, we subjoin the following prescription:

R. Pulv. rad. belladonnæ, gr. ij.
Pulv. ipec. and opii. gr. iv.
Sulphur precipit. ℈j.
Pulv. sac. alb. ℈ij.
M. Div. in charts xx.

One to be given to an infant every three hours, and in the intervals ten drops of the following:

R. Acid prussic, gtt. xij.
Aquæ cinnam. ʒss.
Syrup simp. ʒiij. M.

But in pursuing this practice, great precaution is necessary, and we should not advise it as a course of treatment to be generally adopted.

CHOLERA.

THE late arrivals from Europe afford no new fact of importance respecting this terrific scourge. Its fury had not abated, and few who had come under its inflictions had found any escape but their grave.

It is with the greatest satisfaction we are able to record the wise measures of precaution recently adopted by our City Government. An order passed the Board of Aldermen last week, directing that all goods coming from Riga, Dantzic, Archangel, the Cattegat (including Gottenburg), or any port within the Baltic, or any port known or suspected to be infected by a contagious disease, excepting metallic substances not in packages, shall be landed at Rainsford Island, until further order of the board. An order also passed, directing that a circular be printed in the newspapers and sent to the selectmen of the seaport towns in Massachusetts, New Hampshire, Maine, Rhode Island and Connecticut, asking their coöperation and their most vigorous exertions, in carrying into effect all quarantine regulations which may be adopted to prevent the introduction of the Cholera Morbus, which now prevails in the North of Europe, and their advice and suggestions in reference to such other measures as may be calculated, under the blessings of Almighty Providence, to prevent the visitation of this formidable scourge upon our land.

The unlading of vessels from infected ports, at an island in the harbor, instead of at the thronged wharves of the city, is, as we stated last week, the *true* and efficient point in the system of quarantine. Whether the disease is contagious or not, whether its seeds may be carried about in clothing or merchandise, or whether or not they exist in the atmosphere of the infected port, a portion of which atmosphere is carefully and closely shut up in the vessel's hold, the course now prescribed is no more than the most solemn duty of our civil rulers called on them to adopt; and it is most sincerely to be hoped, that every port on our coast will receive a barrier no less effectual against the entrance of a disease which, in the measure of its fatality, the rapidity of its course, the suffering of its victims, and the difficulty of escaping it, far surpasses the smallpox which desolated Europe in bygone days, the plague which spreads so often its terrors over the eastern world, or any other malady with which the human race has ever before been visited.

Often have we remarked upon the broad gates of a panic-stricken

city. Nothing can be more unwise than to harbor debilitating fears, or indulge in sombre and paralysing anticipations of evil. But let us look calmly on, and watch with interest and care, more than apprehension, the progress of this disease. Instead of giving way to gloomy forebodings, or wasting time in vague speculations on the contagiousness or non-contagiousness of the malady, or the chances of escaping it, let us act vigorously in exerting those means which are placed within our reach, for the preservation of ourselves and our fellow men, and leave the issue with God, who will order all things for our eventual good.

In this connection, we would suggest the propriety of that further measure of security which most becomes a christian people who are seeking protection from a scourge of such mighty power. We fast in the spring time, and give public thanks in the harvest for the bounties of the season. The present crisis appears to us no less appropriate than either for public petitions to the only power which can, under all and any circumstances, afford us entire security.

PROFESSED REMEDY FOR CHOLERA.

Remedies which come to us in a questionable shape, we have not been in the habit of noticing in this Journal. It may not be amiss, however, to present the reader with the following extract from the London Morning Chronicle; not as in any degree entitled to his confidence—only to his consideration.

"We alluded on Saturday last to the hopes entertained of a remedy having at length been discovered for the cholera. As it is of importance that the public should know exactly the authority on which Cajeput Oil has been recommended, as well as the mode of administering it, we have since made more minute inquiries with that view, and the following is the result of them:—

"The gentleman referred to as having given the result of his observations on the effect of Cajeput Oil in cholera, is *not* of the medical profession. He holds a high office in the civil service of the East India Company, and arrived in June last from Madras, where he had been a member of the Council. He was Judge at Masulipatam in 1825, where the cholera prevailed, and where circumstances obliged him to give what aid he could in the exigency. It appears that the remedy was administered as early as possible on the appearance of the symptoms, in doses of from 25 to 50 drops in about half a wine glass full of warm water; the latter dose repeated in half an hour when the symptoms did not give way to the first dose.

"When the stomach rejected the first dose, fifty drops were given instantly. The success was extraordinary, one case only out of 110 having proved fatal. The medicine was not repeated after the symptoms had subsided. Recovery was usually very rapid, and no other medicine was found necessary. These facts were communicated to Prince Lieven by the high medical authority alluded to by us, and the Prince forwarded a copy of the statement of them to his government, together with a bottle of the oil.

"The above particulars may be relied on as perfectly authentic."

CHAIR FOR INVALIDS.

We had the pleasure, a few days ago, of examining a chair for invalids, made under the direction of

Dr. Grigg, of this city. Of the many productions of this gentleman's ingenuity, we regard this as decidedly the most important and practically useful. In cases of spinal deformity, fractures, dislocations, paralysis, or other disease of the lower extremities, it appears to us to do away entirely the necessity of the patient's keeping his bed, even from the first: it enables him to move about with ease, to preserve muscular power and general health by exercise, and to sit up or recline at any angle which he may prefer. For hospitals and sick rooms it will be invaluable, and we hope the Doctor will favor the profession with a full account and representation of it, with the modes of using, &c. &c.

MOUNT AUBURN CEMETERY.

At a meeting of the Horticultural Society on Saturday last, the following report, from a committee chosen by the subscribers to the Cemetery, was made by the Hon. Judge Story.

The committee appointed at a meeting of the subscribers to the Mount Auburn Cemetery, to consider and report to the Massachusetts Horticultural Society, whether it is expedient to have any, and if any what religious ceremonies for the purpose of consecrating the said Cemetery, have had that subject under consideration, and beg leave respectfully to report to the said society:

1. That in the opinion of the committee it is expedient to have the said Cemetery consecrated by religious ceremonies on Saturday, the twenty-fourth day of September instant, in the afternoon, at Mount Auburn. And if that day should not be fair, then on the next fair day, excluding Sunday.

2. That the religious ceremonies proper for the occasion would be

An Introductory Prayer,
An Address, and
A closing Prayer,

with an original Hymn to be sung by the Assembly, and other appropriate music.

3. That the choice of the persons to officiate at the religious ceremonies of consecration, and all other arrangements suitable for the occasion, should be made by a Committee of Arrangement to be chosen by the Horticultural Society, with full powers for that purpose.

4. That the committee of arrangements should have full power to fill all vacancies occurring in their own body, and to appoint all suitable officers to assist them in the discharge of their duties; and that they should give due public notice of the order of their arrangements when they shall have been completed.

All which is respectfully submitted.

JOSEPH STORY.

By order of the Committee.

Voted, That the report be accepted.

Resolved, That the Consecrating Committee of nine members be chosen.

The following gentlemen were elected: Hon. Joseph Story, Henry A. S. Dearborn, Charles P. Curtis, Rev. Charles Lowell, Zebedee Cook, Jr. J. T. Buckingham, Geo. W. Brimmer, Geo. W. Pratt, Z. B. Adams.

At a meeting of the committee above named, on the same day,

It was *ordered*, that Messrs. Curtis, Buckingham and Pratt, be a committee to invite the orator, and clergyman, and to provide an appropriate hymn and suitable music, for the dedication of the cemetery.

Voted, That General Dearborn, Mr. Brimmer and Mr. Cook, be a committee to prepare the grounds at Mount Auburn, and to make arrangements for the accommodation of the company.

Voted, That Messrs. Cook and Pratt be a committee to make suita-

ble appointments of marshals and other officers, and to arrange all matters of police for the occasion.

The sub-committee first above named announce to the Society that they have, as far as practicable, at present, performed the services assigned them, and that an address at the solemn consecration of the cemetery, will be delivered by the Hon. Joseph Story; the Prayers will be offered by the Rev. Messrs. Lowell and Pierpont; and an original Hymn will be prepared by the Rev. Mr. Pierpont. The other arrangements will be announced as soon as completed.

Tanning of Leather by Grape Marc.—A medical man of the neighborhood of Narbonne has announced that the marc of grapes, after being distilled for the purpose of separating the alcohol, is an important assistant to oak bark, in the tanning process. After preparing skins in the usual manner, he placed them in the pits with the marc, in the place of bark. In thirty-five or forty days the tanning was finished. The expected advantages are, 1, shorter time; 2, reduction in the price of oak bark; 3, a more agreeable odor than that given by oak bark; 4, greater strength in the leather.—*Receuil Industrielle*, xvi. 85.

Defence against Flies, used by the Butchers of Geneva.—It is said that the butchers of Geneva have for a long time used the oil of laurel as a substance which prevents the flies from approaching their meat. The odor of this oil, though strong, is not very disagreeable, and the flies will not approach the walls or parts which have been rubbed with it. The person who describes these effects says that he has, in this way, guarded the gilt frames of mirrors and pictures most perfectly from flies.—*Receuil Industrielle*, xv. 247.

Paracentesis Cranii.—It is stated in our respected contemporary, the *London Medical and Surgical Journal*, that Dr. Conquest has performed this operation in seven cases of chronic hydrocephalus, in four of which a complete cure has been effected. It is due to the profession that the details of these cases should be given to them.—*American Journal of Medical Sciences.*

We are under obligation for several favors which should not pass unacknowledged. The communication of Dr. P., of M., New York, is received, and will have early attention. —Dr. Peixotto's Address, Dr. Parsons's new work, Dr. Caldwell's Prize Essay on Malaria, and the Communications of the Massachusetts Medical Society, will each be noticed more particularly in a future number.

Whole number of deaths in Boston the week ending Sept. 9, 37. Males, 17—Females, 20. Stillborn, 1.

Drowned, 1 — consumption, 10 — hooping cough, 1—dysentery, 2—debility, 2—old age, 3—infantile, 3—unknown, 2—canker, 1—apoplexy, 2—intemperance, 2—bilious fever, 1—sudden, 1—teething, 1—scrofula, 1—abscess, 1—brain fever, 1—dropsy on the brain, 1.

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